38. The expression cassette according to Claim 51 wherein the promoter is a gamma zein promoter or a waxy promoter.

39. A vector comprising the expression cassette of Claim 51.

40. A plant cell transformed with the vector of Claim 39.

41. A transformed plant comprising the vector of Claim 39.

42. A seed produced by the method of claim 56.

43. A transformed cereal plant seed, the endosperm of which contains an elevated level of preselected amino acids compared to a corresponding untransformed cereal plant seed, wherein the amino acids are lysine and/or a sulfur containing amino acid.

44. The transgenic cereal plant seed according to Claim 43, further comprising elevated levels of threonine, tryptophan, arginine, valine, leucine, isoleucine or histidine.

45. The transformed cereal plant seed according to Claim 43, wherein the seed is selected from the group consisting of maize, wheat, rice, barley, oat, sorghum, millet and rye.

46. The seed according to Claim 43 wherein barley alpha hordothionin, soybean 2S albumin protein (ESA), pea albumin, sulfur-rich 15KD maize protein, methionine-rich 10 KD maize protein, sulfur-rich rice prolamine, wheat endosperm purothionin or sulfur-rich alfalfa albumin is expressed in the endosperm.

47. The seed according to Claim 43 wherein the amount of each preselected amino acid in the seed is increased at least about 10 percent by weight more than a corresponding untransformed cereal plant seed.

48. The seed according to Claim 47, wherein the amount of the preselected amino acid in the seed is increased about 10 percent by weight to about 1000 percent by weight more than a corresponding untransformed seed.

49. The seed according to Claim 48, wherein the amount of the preselected amino acid in the seed is increased about 15 percent by weight to about 1000 percent by weight more than a corresponding untransformed seed.

50. The seed according to Claim 49, wherein the amount of the preselected amino acid in the seed is increased about 20 percent by weight to about 1000 percent by weight more than a corresponding untransformed seed.

51. An expression cassette comprising a seed endosperm-preferred promoter operably linked to a structural gene encoding a polypeptide wherein the content of lysine and/or a sulfur containing amino acid is increased at least 10% by weight more than a corresponding polypeptide.

52. The expression cassette of Claim 51, wherein the polypeptide further comprises elevated levels of threonine, tryptophan, arginine, valine, leucine, isoleucine or histidine.

53. A seed product obtained from the transformed cereal plant seed of Claim 43.

54. The seed product of claim 53 that is meal, flour, grits, hominy, porridge or feed.

55. A transformed cereal plant seed which expresses a polypeptide wherein the content of lysine and/or a sulfur containing amino acid is more than a corresponding untransformed cereal plant seed.

B1

56. A method for increasing the nutritional value of transformed cereal plant seeds compared to non-transformed cereal plant seed comprising: transforming a cereal plant cell with a vector comprising an expression cassette comprising a seed endosperm-preferred promoter operably linked to a structural gene encoding a polypeptide elevated in content of a preselected amino acid; regenerating a transformed plant from the cell; and growing the cereal plant to produce seeds.--

In the Specification

Please amend the specification to add the following: Page 1, before the Field of the Invention:

B2

--This application is a continuing application of co-pending U.S. Patent Application No. 09/020,716 filed February 9, 1998, which is incorporated by reference herewithin in its entirety.--

In the specification on page ~~39~~ 40, after "Seq 7:PHP11427 gz::BHL::gz 676-2198 2199-2450", please add the following:

B3

--Seq 8-13: artificial sequence primers

Seq 14: Pea albumin, nucleotide sequence

Seq 15: Pea albumin, protein sequence

Seq 16: sulfur-rich 15KD maize protein, nucleotide sequence

Seq 17: sulfur-rich 15KD maize protein, protein sequence

Seq 18: methionine-rich 10 KD maize protein, nucleotide sequence

Seq 19: methionine-rich 10 KD maize protein, protein sequence

Seq 20: sulfur-rich rice prolamine, nucleotide sequence

Seq 21: sulfur-rich rice prolamine, protein sequence

B3

Seq 22: wheat endosperm purothionin, protein sequence--

In the specification after the abstract on page 40 and on a separate page, please replace the Sequence Listing with the accompanying Substitute Sequence Listing.

Claims

Claim 6, 7, 14-17, 21, 22, 23, 24, 25, 26, 27,28, 29, 30, 31, 32, 33, 34, 35 have been rewritten as claim 36, 37, 38-41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, and 56, respectively.

In Claims 43, 51 and 55, support for this change to "lysine and/or sulfur rich" is found on page 11, line 15.

Specification

Amendments to the Sequence Listing which add Seq. ID Nos. 14-22 are consistent with 37 C.F.R 1.821(c)-(f). Support for this amendment is found as follows:

-page 12, lines 7-8, the pea low molecular weight albumin cDNA and gene sequences are found on page 11126 of Higgins *et al.* (1986) (Seq. ID Nos. 14 and 15).

-page 13, lines 5-6, a maize, sulfur-rich plant protein is found on page 6281 of Pedersen et al (1988) (Seq. ID Nos. 16-17).

- page 13, lines 6-7, a maize, methionine-rich plant protein is found on page 362 of Kirihara (Seq. ID Nos.18-19).

-page 13, lines 7-8, a rice, methionine-rich plant protein is found on page 127 of Musumura (1989) (Seq. ID Nos. 20-21).

-page 12, lines 17-18, a wheat endosperm purothionin is found in Mak and Jones as found in the NCBI database (Seq. ID No. 22).